# CHANGE REQUEST for FY 08-09 BUDGET REQUEST CYCLE

Department:	Natural Resources/Division of Reclamation, Mining and Safety
Priority Number:	6 of 18
Change Request Title:	Reclamation of Forfeited Mine Sites Continuation Funding

SELECT ONE (click on box):  Decision Item FY 08-09  Base Reduction Item FY 08-09  Supplemental Request FY 07-08  Budget Request Amendment FY 08-09	SELECT ONE (click on box):  Supplemental or Budget Request Amendment Criterion:  Not a Supplemental or Budget Request Amendment  An emergency  A technical error which has a substantial effect on the operation of the program  New data resulting in substantial changes in funding needs  Unforeseen contingency such as a significant workload change
Short Summary of Request:	The request is for annual funding of \$342,000 cash funds/Severance Tax for five consecutive fiscal years for the Inactive Mine Reclamation Program (hereafter referred to as "IMRP") to continue addressing reclamation work on 35 projects related to "forfeited" mine sites. The total estimated cost for five years is \$1,710,000. Each annual appropriation is requested for a three-year spending cycle to accommodate site assessment work and a limited construction season as the majority of sites are located at higher-elevations. Project management costs for existing Inactive Mine Program staff will be covered from a 5 percent administrative fee deducted from each bond amount and retained in the Minerals Program. Previous spending authority for this purpose (a single increment of \$342,000) was approved in FY07-08.
Background and Appropriation History:	Forfeited reclamation bonds result from mine operator bankruptcy or death or from financial failure of the bonding institution that results in an insufficient bond amount, relative to unfinished reclamation, retained by the state when the mining permit is revoked (for ease of discussion, the term "forfeited" is used in the Long Bill line to refer

to both the bond and the mine site, rather than the term "revoked"). No state funds are dedicated to addressing incomplete reclamation on revoked sites. The current list of

outstanding revoked mine sites (see Exhibit A for location of the sites) has developed since 1977 when mining regulatory statutes were first enacted to require operators to post a bond to cover the cost of reclaiming the site if the operator failed to do so. Occurrences of inadequate bonds retained by the state at the time a mine permit is revoked are due to bonding caps initially set at unrealistic levels and later not being maintained at adequate levels as the operator experienced financial problems. The requirement of an operator to increase the amount of their bond due to revised reclamation cost calculations based on new site parameters or to inflationary increases on the cost to reclaim the site often triggers failure of an operator who was already facing financial difficulty leading into bankruptcy. Per Colorado statutory citation 34-32-118(5) C.R.S. [2007], the Mined Land Reclamation Board has right of entry on revoked mine lands and has authorized IMRP to coordinate contractual remediation work required at each site. Sites where the bond amount was sufficient to cover unfinished reclamation work are addressed by IMRP within project workloads; 35 remaining projects are identified by an initial field survey at sites that do not having adequate bond coverage for the reclamation work that remains, for an estimated total additional cost of \$1,710,000.

The uses of current funding sources in IMRP are outlined below in the context of preand post-mining regulation stages. In summary, pre-law sites can be reclaimed with forfeited bond amounts, Office of Surface Mining (OSM) federal funds, or severance tax, while post-law sites can only be addressed with forfeited bond amounts and severance tax funds. A single appropriation of \$342,000 severance tax funding was approved in FY07-08 (see FY07-08 Long Bill line (B) Inactive Mines, Reclamation of Forfeited Mine Sites), which will fund reclamation at 10 forfeited sites, leaving 35 sites without funding. Certain funds are restricted in the types of reclamation they can address as differentiated between "safeguarding" (installing closure structures over mine openings, stabilizing/moving mine surface terrain, or removing physical structures/debris) and "environmental reclamation" (actions taken to control metals, acids or excessive sediments at a mine site from entering water sources).

Prior to 1977	1977 – 1993	1993 – Present
Historic "Abandoned" Mine Sites		

Approximately 17,000 known sites/openings remain	Revoked/Forfetied Mine Si	ites 35 projects remain.
"Pre-law" – Mines that occurred prior to the establishment of mining regulatory laws and referred to as "abandoned." These historic sites were not required to reclaim disturbed areas or post a reclamation bond amount.	"Post-law/Capped Bond Amounts" – Mines established during this period were required to post a bond amount and to reclaim the disturbed acres, but bond amounts were set at capped amounts by type of mine permit and were not calculated per mine size, disturbance impacts, and environmental characteristics associated with a mines location and hydrology.	Mines established during this period are required to post a bond amount that is calculated using numerous factors relative
Funding Source/Reclamation That Can Be Addressed:	Funding Source/Reclamation That Can Be Addressed:	Funding Source/Reclamation That Can Be Addressed:
Federal funds from Office of Surface Mining*Severance tax funding	Forfeited Bond fundsSeverance tax funding	Forfeited bond fundsSeverance tax funding
Safeguarding only (not allowed to address environmental issues) / Priority for coal sites.	Safeguarding and Environmental reclamation / Coal and non-coal sites.	Safeguarding and Environmental reclamation / Coal and non-coal sites.
*Federal funds from Office of Surface Mining will significantly increase from FY09 through FY15 enabling IMRP to address more projects out of the remaining 17,000 than the current pace.	Severance tax funding approved in FY07-08 will address 9 non-coal sites permitted between 1977-1993.	Severance tax funding approved in FY07-08 will address 1 non-coal site permitted after 1993.

<u>Financial Warranty Requirements and Pursuit of Failed Operators</u>: The Division regulates over nearly 2,000 permitted mines on an annual basis. During the permit review and approval process, DRMS staff prepare a detailed estimate of the cost of reclaiming the proposed mine operation. This estimate determines the amount of the reclamation bond that the operator must record and post with DRMS and State Treasury. Prior to 1993, these bond amounts were statutorily set by permit type and did not allow

for increases based on inflation or other site changes. When tougher environmental laws and bonding requirements were passed in 1993, numerous mine operators were unable to post the recalculated bond amounts and were forced into bond forfeiture. Similar to bank responsibilities under the real estate foreclosure process, the state assumes responsibility for the unreclaimed mine, but funding to cover the gap between the available bond amount and actual reclamation cost is not available. DRMS has pursued numerous avenues against failed operators, including forwarding the "bonding gap amount" as a civil penalty to Department of Personnel and Administration's Central Collections Services. Central Collections will only pursue the debtors for a limited number of years and becomes one of the many claimants if the operator files bankruptcy. IMRP has conducted minimal remediation at most revoked sites with the bond amounts currently available, but numerous hazardous openings, mine wastes, unstable slopes and highwalls and barren lands still remain unreclaimed for which severance tax funding is being requested here.

General Description of Request:

As Colorado's population expands into historic back-country mining areas, the unreclaimed revoked sites pose public safety hazards such as unstable terrain for off-road vehicles and foot-traffic and dangerous mining debris such as volatile explosives, chemicals, and scrap metal and dangerous structures. Exhibit B shows photographs taken from revoked mine sites that show typical site conditions. It is a high priority of the Division to address these potential public health and safety issues by seeking increments of funding that will reduce the 10-20 year lag that has existed in addressing the reclamation required at the revoked sites while also enabling existing FTE in IMRP to incorporate 10-15 projects within their current project workload. The availability of severance tax funding serves as an appropriate source to remedy post-mining issues as the statutory language for creation of the Severance Tax Trust Fund states the purpose of the fund is "for the use in funding programs that promote and encourage sound natural resource planning, management, and development related to minerals, energy, geology, and water." The goal is to return the disturbed acres to a safe, environmentally stable, and beneficial use.

Consequences if Not Funded:

If the request is not approved, the \$342,000 in severance tax money approved for FY 2007-08, along with the minimal forfeited bond amounts, will be the only funds available

to reclaim revoked mine sites. Other funding sources in the program are specified to address specific abandoned mine sites. The financial inability to address physical and environmental problems at these sites continues to expose the public to accidents or deaths if they trespass in and around hazardous mine sites and contributes to continued pollution problems at sites where mine wastes and mill tailings contaminate public water ways, and water storage/treatments systems. Mine related water quality issues also threaten aquatic species/habitat and the overall viability of numerous watersheds. Delays in addressing the backlog increase the gap between the final cost of reclamation and the inadequate bond amount, therefore increasing the current estimated cost of \$1,710,000. Public opinion of mining in the state can turn negative if unsightly mine waste sites, accident occurrences and environmental degradation increases. This may lead to ballot initiatives intended to restrict current or future mining operations. Such actions would weaken the economic viability of the industry to operate in the state.

## **Calculations for Request:**

Summary of Request FY 08-09	<b>Total Funds</b>	General	<b>Cash Funds</b>	Cash Funds	Federal	FTE
		Fund		Exempt	<b>Funds</b>	
Total Request	\$342,000	\$0	\$342,000	\$0	\$0	0.0
(2) (B) Inactive Mines Reclamation of Forfeited Mine Sites – Continuation funding for this line for Year-1 of 5 to fund 4 projects at forfeited sites.	\$342,000	\$0	\$342,000	\$0	\$0	0.0

Summary of Request FY 09-10	Total Funds	General Fund	Cash Funds	Cash Funds Exempt	Federal Funds	FTE
Total Request	\$342,000	\$0	\$342,000	\$0	\$0	0.0

Summary of Request FY 09-10	Total Funds	General	Cash Funds	Cash Funds	Federal	FTE
		Fund		Exempt	<b>Funds</b>	
(2) (B) Inactive Mines	\$342,000	\$0	\$342,000	\$0	\$0	0.0
Reclamation of Forfeited Mine Sites –						
Continuation funding for this line for						
Year-2 of 5* to fund 5-10 projects at						
forfeited sites.						

<sup>\*</sup>Funding of \$342,000 per fiscal year is requested to continue in FY2010-11, FY2011-12 and FY2012-13.

## Requested Long Bill line, Cash Funds (CF) Letternote, and Numbered Footnote:

**Long Bill line title**: (B) Inactive Mines – Reclamation of Forfeited Mine Sites

**CF Total letternote**: [Current Long Bill letternote on Inactive Mines CF total accurately identifies this requested amount if continued on the CF total.]

**Numbered Footnote**: Add new footnote to Long Bill that states: *Department of Natural Resources, Division of Reclamation, Mining and Safety, Inactive Mines, Reclamation of Forfeited Mine Sites – It is the intent of the General Assembly that \$342,000 will be appropriated to this line every fiscal year beginning with FY2008-09 and ending with FY2012-13. Each annual appropriation will remain available until the completion of the project or the close of the third fiscal year following the appropriation year, whichever comes first. At project completion or the end of the three-year period, any unexpended amount shall revert to the Operational Account of the Severance Tax Trust Fund, from which this appropriation was made.* 

## Forfeited Mine Sites Identified for 5 Years of Requested Funding

Operator-Site Name/ Permit Year	County	Estimated Cost to Finish Reclamation	Forfeited Bond Amount (1)	Additional Funding Required (2)	Acres	Site Problem(s)
Projects for Year 1-FY08-09						
H&M Joint Ventures (1985)	Clear Creek	\$ 175,000	\$ 1,500	\$ 100,000	10	Environmental degradation/ hazardous
				(Year 1)		materials removal
Druid (1990)	Gilpin	\$ 297,124	\$ 147,124	\$ 112,000	1	Environmental degradation/ public
	_			(Year 1)		health and safety

Sherman Mine & Mill (1986)	Lake	\$ 660,000	\$ 92,000	\$ 100,000	167	Environmental degradation/ hazardous
(\$110,000 funded in FY08)				(Year 2)		materials removal
Arrigo Milling & Mining	San Juan	\$ 35,000	\$ 5,000	\$ 30,000	9	Environmental degradation/ public
(1978)						health and safety
Total FY08-09 Request				\$342,000		
Projects for Years 2-5						
H&M Joint Ventures (1985)	Clear Creek	\$75,000	\$0	\$75,000	10	Environmental degrade/hazardous
				(Year 2)		materials removal
Druid (1990)	Gilpin	\$38,000	\$0	\$38,000	1	Environmental degrade/public health
				(Year 2)		and safety
Fortune (1983)	Boulder	\$6,900	\$1,900	\$5,000	1	Environmental degradation
Colina Oro Molino (1993)	Boulder	\$5,500	\$500	\$5,000	1	Environmental degradation
Bueno Mine (1992)	Boulder	\$50,000	\$0	\$50,000	8	Envir degrad/hazardous materials
Virginia Canyon (1979)	Clear Crk	\$78,374	\$48,374	\$30,000	6	Envir degrad/hazardous materials
Clear Creek (1985)	Clear Crk	\$31,500	\$1,500	\$30,000	1	Envir degrad/heavy metals/erosion
Internatl Mining (1987)	Clear Crk	\$4,000	\$2,000	\$2,000	1	Envir degradation
Fools Luck Placer (1984)	Gilpin	\$10,478	\$2,978	\$7,500	10	Envir degradation
Saratoga Mines (1982)	Gilpin	\$47,400	\$32,400	\$15,000	16	Envir degradation
Central Gold (1981)	Gilpin	\$5,500	\$500	\$5,000	7	Envir degradation
O'Mines (1981)	Gilpin	\$5,500	\$500	\$5,000	1	Envir degradation
London Mine (1980)	Park	\$112,000	\$12,000	\$100,000	20	Envir degradation
Fair Chance (1981)	Teller	\$5,383	\$1,883	\$3,500	1	Envir degradation
Sleepy Jim (1987)	Teller	\$7,000	\$2,000	\$5,000	1	Envir degradation
Huerfano Peak (1979)	Huerfano	\$7,500	\$2,500	\$5,000	10	Envir degradation
Sherman Mine, Year-3 (1986)	Lake	\$550,000	\$0	\$550,000	167	Envir degrad/hazard materials removal
Pinyon Sand & Gravel (1988)	Pueblo	\$35,000	\$17,500	\$17,500	7	Envir degradation
Levicy (1978)	Gunnison	\$9,750	\$4,750	\$5,000	6	Envir degradation
Enterprise/Carpenter (1983)	Gunnison	\$8,800	\$3,800	\$5,000	10	Envir degradation
Tomichi (1983)	Gunnison	\$20,000	\$5,000	\$15,000	10	Envir degradation
Bennett Mining Co. (1977)	Montrose	\$5,887	\$887	\$5,000	3	Envir degrad/public health & safety
Truck Stop Placer (1988)	Montrose	\$9,500	\$2,000	\$7,500	2	Envir degrad/revegetation
Little Silver (1981)	Dolores	\$15,845	\$10,845	\$5,000	8	Envir degrad/grading
Tippecanoe (1996)	La Plata	\$12,361	\$2,361	\$10,000	1	Envir degrad/grading/reveg (remote)
Bessie G (1984)	La Plata	\$32,450	\$17,450	\$15,000	10	Envir degrad/grading/reveg
Jack Knife (1977)	San Miguel	\$5,700	\$700	\$5,000	6	Envir degradation

San Miguel Gold (1987)	San Miguel	\$14,939	\$4,939	\$10,000	5	Envir degrad/grading/reveg
Summitville (1984)	Rio Grande	\$322,000	(bond included	\$322,000	167	Acid mine drainage water treatment;
			in bankruptcy			bio-remediation pilot project for water
			settlement)			pollution source control
Caprock Corporation (1986)	Jackson	\$10,000	No bond	\$10,000	1	Envir degradation
American Energy (1980)	Rio Blanco	\$7,500	\$2,500	\$5,000	9	Envir degradation
Total – Years 1-5				\$1,710,000		

Assumptions for Calculations:

- (1) Forfeited Bond Amount is the bond amount that was filed with the State Treasurer's Office at the time of operator failure/bankruptcy that resulted in revocation of their mining permit and forfeiture of the posted bond amount to the state. Five percent of the forfeited bond was previously deducted and retained in the Minerals Regulatory Program to cover the cost of IMRP staff time for project management. In some cases this funding has already been spent on the site and more work is required to complete the remaining reclamation.
- (2) Project cost estimates are based on preliminary file/field review performed by IMRP staff, as updated as of May 2007. Some estimates will require more extensive field investigations to confirm cost and current site conditions.

<u>Impact on Other Government Agencies:</u> Not applicable.

# **Cost Benefit Analysis:**

Total Cost: \$1,710,000	Total Benefits: \$17,557,500
FY08-09 Request = \$342,000	
FY10-FY13 = \$1,368,000	
	Benefits are based upon <u>costs avoided</u> if the following events can be prevented:
	(1) damage to fisheries populations;
	(2) negative public opinion of mining resulting in mine operators leaving the state;
	(3) citizen injury/vehicle damage incidents; and
	(4) inflationary costs on materials to address sites (steel, fuel, cement, labor costs, etc.) if revoked
	sites are reclaimed over the next 5 years.
<b>Benefit/Cost Ratio = 10.2</b>	

### "Costs Avoided" Assumptions and Information Sources:

## (1) Fisheries Economic Revenue - \$17,199,000

The \$17,199,000 value is 2% of total economic value of fishing to the state per report cited in (i) below. Maintaining clean fish/aquatic habitat by addressing mine drainage from abandoned mines, avoids the loss of fisheries revenue associated with impacted streams. See (i) for study of total fisheries revenue and (ii)/(iii) for the derivation of the 2% value.

- (i) Economic Values of Fishing in Colorado in 2002 (Model developed by BBC Research and Consulting as commissioned by the Colorado Division of Wildlife in 1998. Values are based on 2004 dollars.)
- ---Direct expenditures (fishing licenses, angling supplies, etc.) \$457,700,000/year
- ---Indirect expenditures (secondary costs-transportation, lodging,

Food, etc.) \$361,300,000/year

---Total jobs related to fisheries 10,950/year

Total Fisheries Economic Revenue \$819,000,000/year

(includes revenue from fishing on lakes, reservoirs, pond and streams)

- (ii) Reduction of total fisheries revenue value to obtain the value for <u>streams</u> only: Total fisheries revenue of \$819,000,000 includes revenue from fishing on lakes, reservoirs and ponds. Per Colorado Division of Wildlife 2005 Annual Report (p.32), 2,775 lakes, reservoirs, and ponds are managed for fisheries and 5,368 stream segments. Out of the "total bodies of fisheries water", 2,775 is 34%. Rounded down to 30%, and applied to the value of \$819,000,000, results in fisheries economic impacts for streams (not lakes) as \$245,700,000.
- (iii) Further reduction of streams fisheries revenue based on subset of <u>streams impacted</u> by mine drainage:
- ---1,300 miles of streams impacted by mine drainage out of 9,000 miles of trout streams (www.bigtrout.com/goldmedal.html) = 15%
- --- Assume half of 1,300 mine impacted streams have viable trout fishing = 7%

Apply 7% to <u>streams</u> fisheries revenue value of \$245,700,000 to obtain **\$17,199,000**, which is 2% of total fisheries revenue.

(2) <u>Lost Mining Property Tax Revenue - \$300,000</u>: Avoid negative public opinion of mining caused by forfeited "unsightly" unreclaimed lands that results in public pressure on county governments to pass mining restrictions, and causing mine companies to relocate operations to more "business friendly" states. This would diminish corporate tax revenue to the state.

Assume 2% of metal mine operations cease doing business in the state if counties pass "mining bans" (certain metal mines are more likely to cause public concern because of the environmentally hazardous chemicals used to extract the ore):

- ---Approximately \$15,000,000 total = 2006 property tax base received from metal mines (Source: Colorado Mineral and Energy Industry Activities, 2006, by Colorado Geological Survey, Cappa, Young, Burnell, Carroll and Widmann)
- ---2% used as a conservative estimate of mining companies that relocate based on "unfriendly business" conditions in the state: 2% of \$15,000,000 = \$300,000 lost property taxes annually.
- (3) <u>Personal vehicle or injury incidents \$8,500</u>: Avoid citizen medical or vehicle repair costs that may occur from hazardous conditions at forfeited mine sites.
  - ---1 event -- broken leg requiring surgical repairs and rehabilitation -- \$8,000 (2005 medical cost of similar incident known by DRMS staff)
  - ---1 event Vehicle axle [constant velocity (cv) joint/boot] damage -- \$250-500 Total exemplified cost for personal injury and vehicle damage = \$8,500
- (4) <u>Inflationary increases on construction materials \$50,000</u>: Avoid 20% inflationary increase on materials, which results in an additional \$5,000\* per project for every year the site is not addressed. \$5,000 additional cost per year x 10 projects = \$50,000. In order to apply a conservation "inflationary rate" in the calculation above, 20% is used, which is the lowest rate of the inflationary increases cited below (see cement and plastic pipes).

Construction price increases that impact cost to reclaim revoked mine sites:

- Diesel Fuel increased 59% from 2004-2005 (causes increases in earth moving services).
- Cement increased 20% and shortages of supplies occurred in Colorado during 2005.
- Polyvinal chloride (PVC plastic) pipe prices have increased 20-100% since 2005 and geo-membrane prices have increased 60% since 2004 due to increased pricing of natural gas required to fuel the plastics production process. ("The Cost Outlook for Construction" by Ken Simonson, Chief Economist, Associated General Contractors of America, November 15, 2005)

Percentage of project cost that is for materials on average is 10% (Source: Hayward Baker, Inc, based on 20+ years of contracting n Rocky Mt Region.)

\*For \$250,000 forfeiture project, 10% is for materials cost or \$25,000. Apply 20% inflationary rate on \$25,000, results in an additional \$5,000 per project for every year the site is not addressed.

### Implementation Schedule:

Task	Month/Year
Forfeiture site project planning and design and land owner contacted by IMRP staff.	July 2008 – April 2009
	May 2009 – October 2009
Two construction seasons (if needed) to finalize on-site work.	May 2010 – October 2010

Statutory and Federal Authority:

State Authority on Bond Forfeited Mine Sites 34-32-118(5), C.R.S. [2007] - Funds recovered by the attorney general in proceedings brought pursuant to subsection (4) of

this section shall be held in the account described in section 34-32-122 and shall be used to reclaim lands covered by the forfeited warranties; except that five percent of the amount of the financial warranty shall be deposited in the mined land reclamation fund, created in section 34-32-127, to cover the administrative costs incurred by the office in performing reclamation. The board shall have a right of entry to reclaim said lands. Upon completion of such reclamation, the board shall present to the financial warrantor a full accounting and shall refund all unspent moneys.

**Severance Tax Statutes 39-29-109 (1) (a), C.R.S. [2007]** – There is hereby created in the office of the state treasurer the severance tax trust fund. The fund is to be perpetual and held in trust as a replacement for depleted natural resources and for the development and conservation of the state's water resources pursuant to sections 37-60-106 (1) (j) and (1) (1), 37-60-119, and 37-60-122, C.R.S., and for the use in funding programs that promote and encourage sound natural resource planning, management, and development related to minerals, energy, geology, and water. State severance tax receipts shall be credited to the severance tax trust funds as provided in section 39-29-108.

- (II) The operational account. One-half of the severance tax receipts credited to the severance tax trust fund for tax years commending on and after July 1, 1995, shall be credited to the operational account of the severance tax trust fund and used to fund programs established within the Colorado oil and gas conservation commission, the Colorado geological survey, the division of reclamation, mining and safety, and the Colorado water conservation board that promote and encourage sound natural resource planning, management, and development related to minerals, energy, geology, and water, as set forth in paragraph (c) of this subsection (1).
- (C) The programs within the division of reclamation, mining and safety, up to thirty percent of the moneys in the operational account. As part of such thirty percent, five hundred thousand dollars, or so much as may be available, shall be transferred to the abandoned mine reclamation fund created in section 34-34-102, C.R.S.

#### Performance Measures:

Performance Measure	Outcome	FY05-06 Actual	FY06-07 Actual	FY07-08 Approp	FY08-09 Request
Percentage of abandoned or forfeited mine sites	Benchmark	1.7%	1.5%	1.5%	2.2%
reclaimed/safeguarded from the effects of past or inactive mining out of a baseline inventory of 23,074 total project units, which is comprised of 23,000 abandoned mines; 33 abandoned coal mine fires; and 41 forfeited sites (under bonded).	Actual	1.3%	1.5%	1.5%	2.2%

This request will allow DRMS to address 5-6 forfeited mine sites annually from FY2008-09 through FY2012-13. Without the approval of this Severance Tax funding, funding to address 35 projects at forfeited sites will consist only of the insufficient forfeited bond amounts.